LEADER INFLUENCE BEHAVIOR FROM THE TARGET'S PERSPECTIVE: A TWO-FACTOR MODEL

BY

KEVIN MULLANEY

THESIS

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Adviser:

Professor Daniel Newman

ABSTRACT

This thesis presents 3 studies that examine the factor structure underlying a target's perception of downward influence. Drawing on meta-categorizations of influence tactics previously presented in the influence literature, Study 1 constructed a set of possible higher-order factor models and subjected them to competitive tests of model-data fit. The best fitting model was a two factor model of influence, consisting of: (a) a hard influence factor that includes legitimating, coalition, and pressure tactics, and (b) a soft influence factor that includes rational persuasion, consultation, ingratiating, inspirational appeals, exchange, and personal appeals. This factor structure supports the assertions of previous studies that hard tactics and soft tactics can be differentiated by the degree to which they either reinforce or threaten the target's autonomy to choose to comply with the agent's request. Study 2 analyzed the incremental validity of the hard factor versus the soft factor in predicting behavioral outcomes of influence (i.e., soft tactics predict commitment, hard tactics predict resistance), and further supported the existence of two distinct factors. Study 3 analyzed specific validity of the individual influence tactics in predicting outcome criteria when controlling for the higher-order factors. This analysis showed that the higher-order factors accounted for the lion's share of the predictive validity for behavioral outcomes of influence. Areas for future modification of the two-factor (hard/autonomy-threatening vs. soft/autonomy-reinforcing) model of influence tactics are discussed.

To my wife, who does all the hard work and lets me play with ideas

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CHAPTER 1

REVIEW OF INFLUENCE TACTICS RESEARCH

1.1 Early Investigations of Influence Tactics

Humanity has long been interested in the processes through which one person influences another. One ancient manifestation of this interest survives in Aristotle's Rhetoric, which examines "the faculty of observing in any given case the available means of persuasion." (Aristotle, *Rhetoric* 1.2.1). The study of rhetorical persuasion has remained a staple of Western education from Aristotle's time to the present. With the emergence of psychology in the 20th century, new theory and method have become available to investigate influence and persuasion. One of the most productive streams of research in this line was initiated by Kipnis, Schmidt, and Wilkerson (1980), who spearheaded a direct empirical approach towards studying social influence. Their methodology has been pursued and refined (e.g. Yukl & Falbe, 1990, Schriesheim & Hinkin, 1990; Yukl & Seifert, 2002) over the last 30 years and provided a solid foundation for our understanding of the actual influence behaviors that occur in the workplace.

The current study will attempt to make four contributions to the study of influence tactics. First, we meta-analytically summarize the bivariate relationships among target perceptions of the nine influence tactics most commonly studied via the dominant influence tactic instrument, the Influence Behavior Questionnaire (Falbe & Yukl, 1992). Second, we review theory suggesting the presence of two core factors underlying the set of nine influence tactics, referred to as *hard influence* (i.e., autonomy-threatening, extrinsic influence tactics) and *soft influence* (i.e., autonomy-maintaining, intrinsic influence tactics). We subject our pooled meta-analytic correlation matrix to confirmatory factor analysis to evaluate the overall fit of the hypothesized two-factor model, as well as to estimate the factor loadings of the tactics onto the

respective *soft* and *hard* influence factors. Third, we empirically assess whether the lower-order influence tactics account for variance in follower responses, after controlling the corresponding higher-order hard or soft influence factor. Fourth and finally, we test the hypotheses that hard influence uniquely predicts target resistance to influence attempts, whereas soft influence uniquely predicts target internal commitment to influence attempts.

When Kipnis et al. (1980) initiated their research into social influence, they wanted to widen the focus of influence studies to include not only leadership (downward influence), which was typically studied, but also lateral and upward influence. They additionally sought to move from "anecdotal evidence or armchair speculations" (p. 440) about the nature of power and influence to more scientific observations and reports of actual behavior. The efforts of Kipnis et al. in studying influence tactics were fundamentally empirical, bottom-up, and inductive (Locke, 2007); thus empirically-grounded approaches have typified the study of influence tactics from its inception to the present. In their first study of influence tactics, Kipnis et al. (1980) asked 165 graduate business students to describe instances in which they successfully influenced someone else in their organizations. Subjects in the study were free to report on any directions of influence, thus reports included descriptions of upward, lateral, and downward influence. Influence descriptions were coded by researchers to obtain 370 discrete tactics grouped into 14 categories, which the authors describe as representing "a bewildering combination" (p. 443) of the existing literatures, and required a new behavior-based approach to classify adequately. In Kipnis et al.'s (1980) second reported study, they developed a 58 item survey based on the coded reports and had participants indicate the frequency with which they used each tactic within their organizational settings. Results of these surveys were factor analyzed, culminating in the identification of eight intra-organizational influence tactics: assertiveness, ingratiation,

rationality, sanctions, exchange of benefits, upward appeal, blocking, and coalitions (tactic definitions are provided in Table 1 and the history of tactic development is presented in Figure 1). Scales were constructed for these eight tactics for use in future research and were eventually consolidated into the Profile of Organizational Influence Strategies (POIS; Kipnis & Schmidt, 1982), which became the predominant measure of organizational influence in psychology through the rest of that decade.

In the decade after Kipnis et al. (1980) established the baseline set of influence tactics included in the POIS, several researchers extended their work primarily focusing on the contextual and individual antecedents of the various tactics of influence. Contextual antecedents of influence tactics considered in these studies included company ownership, size of company, position (Erez & Rim, 1982), organizational goals (Kipnis & Schmidt, 1982; Ansaria & Kapoor, 1987), leadership style (Ansaria & Kapoor, 1987; Deluga, 1988 and 1988a), organizational interdependency (Kale, 1989), and subordinate performance (Ansari, 1989). Individual antecedents of influence tactics considered in these studies included individual goals (Kipnis & Schmidt, 1982), gender (Benson & Hornsby, 1988; Ansari, 1989), need for dominance, and self esteem (Benson & Hornsby, 1988). In addition, Kipnis and Schmidt (1988) consolidated influence strategies into a typology of four influence types (Shotgun, Tactician, Ingratiator, and Bystander) and investigated the relationship between these influence types and performance, salaries, and stress.

1.2 Refining the Structure of Influence

In 1990 there was an inflection point in the study of organizational influence with the publication of two influential reviews and revisions of the Kipnis et al. (1980) work: Schriesheim and Hinkin (1990), and Yukl and Falbe (1990). Schriesheim and Hinkin (1990) reviewed the factor structure

of the agent-reported upward influence version of Kipnis and Schmidt's (1982) POIS scale. This review involved expert ratings of influence dimensionality, and a factor analysis from a new survey sample in which the authors measured the frequency that subordinates used certain influence tactics on their bosses. The study concluded that Kipnis et al.'s (1980) original research may have suffered from distortion due to mixed perspectives of influence (i.e., upward/downward/lateral), poor content validity, and poor factor-analytic distinctiveness. To address these purported weaknesses, Schriesheim and Hinkin (1990) developed a reduced instrument that eliminated the sanctions and blocking tactics, resulting in a revised POIS instrument comprising six tactics with three items per tactic. Although they called for additional research into the POIS using other directions and perspectives, that research call remains largely unanswered (Yukl, Seifert, & Chavez, 2008). Subsequent studies, especially those reporting upward influence, have routinely used Schriesheim and Hinkin's revised POIS scales to study influence tactics both individually and collectively. Some more recent studies have questioned the revised scale's reliability, factor structure (Hochwarter, Harrison, Ferris, Perrewe, & Ralston, 2000), and use of self reports of behavior (Yukl et al., 2008).

Yukl and Falbe (1990) revisited Kipnis et al. (1980) in order to replicate the earlier results using a different methodology and to incorporate four additional influence behaviors (consultation, inspirational appeals, personal appeals, and legitimating) taken from the leadership and power literatures (Yukl et al., 2008). Instead of validating or revising the POIS scale, Yukl and Falbe (1990) developed an original scale consisting of items derived from Kipnis et al.'s (1980) work plus the four additional influence behaviors. Using both target and agent reports and the full range of influence directions (upward, downward, and lateral), their study found stronger

Table 1 *Definitions of Commonly Studied Influence Tactics*

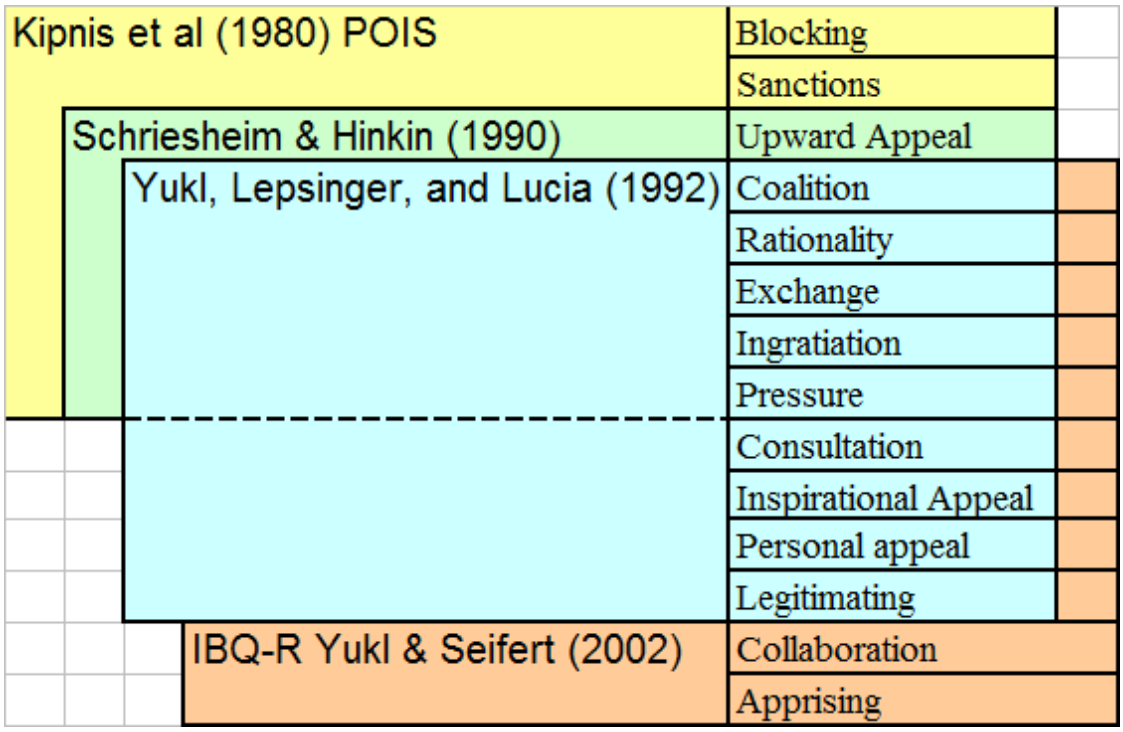
Blocking	The agent attempts to stop the target person from carrying out some action by various kinds of blocking tactics.[1]
Sanctions	The agent employs organizationally derived rewards and punishments to get the target to do something.[2]
Higher authority	The agent gains the support of higher levels in the organization to back up requests.[2]
Coalition tactics	The agent enlists the aid of others, or uses the support of others, as a way to influence the target to do something.[2]
Rational persuasion	The agent uses logical arguments and factual evidence to show that a request or proposal is feasible and relevant for important task objectives.[3]
Exchange	The agent offers something the target person wants, or offers to reciprocate at a later time, if the target will do what the agent requests.[3]
Ingratiation	The agent uses praise and flattery before or during an attempt to influence the target person to carry out a request or support a proposal.[3]
Pressure	The agent uses demands, threats, frequent checking, or persistent reminders to influence the target to do something.[3]
Consultation	The agent asks the target person to suggest improvements or help plan a proposed activity or change for which the target person's support is desired.[3]
Inspirational appeals	The agent appeals to the target's values and ideals or seeks to arouse the target person's emotions to gain commitment for a request or proposal.[3]
Personal appeals	The agent asks the target to carry out a request or support a proposal out of friendship, or asks for a personal favor before saying what it is.[3]
Legitimating tactics	The agent seeks to establish the legitimacy of a request or to verify that he/she has the authority to make it.[3]

[1] Derived from Kipnis, Schmidt, & Wilkerson (1980)
[2] Derived from Kipnis, Schmidt, Swaffin-Smith, & Wilkinson (1988)
[3] Yukl, Seifert, & Chavez (2008)

replication of Kipnis et al.'s (1980) results using agent reports and found general consistency in the frequency of reported tactics used across influence directions. Subsequent studies by Yukl and colleagues validated the new scale while collapsing the two tactics of upward appeals and coalitions into a single tactic (Yukl, Lepsinger & Lucia, 1992). Yukl and colleagues' new scale was consolidated into the Influence Behavior Questionnaire (IBQ), and has been widely used in influence research, particularly in studies investigating target reports of downward influence. The IBQ was later revised to include two additional tactics, apprising and collaboration, based on the results of exploratory factor analysis of reported tactic use (Yukl & Siefert, 2002). This evolution of influence tactics is summarized in Figure 1.

Using the IBQ and revised IBQ , Yukl and colleagues investigated a wide variety of the situational factors affecting influence tactic use and effectiveness, to include direction of influence (Yukl & Tracey, 1992, Yukl, Falbe, & Yuon, 1993, Yukl, Guinan, & Sottolano, 1995), patterns of tactic use based on sequencing of attempts (Yukl, Falbe, & Yuon, 1993), combinations of tactics (Falbe & Yukl (1992), Yukl, Falbe, & Yuon, 1993), objectives of influence (Yukl, Guinan, & Sottolano, 1995), agent power, situational content factors (Yukl, Kim, & Falbe, 1996), agent and target perceptions of task importance and feasibility (Yukl, Kim, & Chavez, 1999), subordinate and multi-source feedback on influence behavior (Seifert, Yukl, & McDonald, 2003, Seifert & Yukl, 2010), influence behavior coaching (Kochanowski, Seifert, & Yukl, 2010), leader-member exchange (LMX) (Yukl & Michel, 2006), and variations in influence tactic effectiveness across cultures (Fu & Yukl, 2000, Yukl, Fu, & McDonald, 2003, Kennedy, Fu, & Yukl, 2003, Fu, Peng, Kennedy, & Yukl, 2004). These studies employed a wide variety of methods to study influence, including field studies (e.g. Yukl & Tracey, 1992), lab studies (e.g. Yukl, Kim, & Chavez, 1999), rater perceptions of influence effectiveness in

Figure 1 *The Evolution of Influence Tactics*



descriptions of scenarios (e.g. Fu & Yukl, 2000), and frequency surveys (e.g. Yukl, Falbe, & Youn, 1993).

Influence effectiveness was measured using dependent variables such as target task commitment and the manager's effectiveness (Yukl & Tracey, 1992), as well as a spectrum of possible target response behaviors (commitment, compliance, resistance) (Yukl, et al., 1996) and rater perceptions of expected effectiveness (Fu & Yukl, 2000).

Aside from the aforementioned body of research by Yukl and colleagues, the measurement of influence tactics since 1990 can be roughly split into four categories: (a) studies of agent reports of upward influence using Schriesheim and Hinkin's (1990) variation on the POIS, (b) studies of target-reported downward influence using the IBQ, (c) studies that select only a subset of tactics to meet the needs of their particular research, and (d) studies that develop independent, novel measures of influence. Of the independent measures developed since 1990, none have gained traction in psychological research to the extent of being used by authors other than the original developer. The most prominent in this fourth group is a German language survey developed by Blickle and Gonner (1999) and used in 5 subsequent studies (Blickle, 2000a, 2000b, 2000c, 2003a, 2003b).

Influence tactic research to date has benefitted from a great deal of consistency in the measures and methods used to conduct the studies. As noted by Yukl and Chavez (2002), however, one thing this body or research lacks is a comprehensive theory that describes the underlying psychological processes at work in influence tactics. A key question is whether influences tactics are perceived to reflect nearly a dozen distinct constructs (e.g., Kipnis et al., 1980), or rather whether a more parsimonious perspective (e.g., Kelman, 1958 could also be used to augment our understanding of the downward influence process). Identifying additional tactics

that have only local relevance will likely offer only diminishing returns. To advance a theory explaining the underlying psychological constructs that contribute to the selection and efficacy of influence tactics, we will attempt a consolidation of the considerable empirical data on influence tactics that has accrued over the last 30 years. The current study seeks to advance this consolidation by investigating the higher-order factor structure underlying a specific domain of influence, namely target-reported downward influence.

1.3 Meta-Categories of Influence

Some work towards consolidating influence tactics into a higher-order structure can be seen in the use of "meta-categories" of influence (Yukl and Chavez, 2002), which seek to group subsets of influence tactics into higher-order meta-categories. Several such studies have parsed influence tactics on theoretical grounds. For instance, Clarke and Ward (2006) grouped influence tactics on the basis of whether they represented transformational or transactional leadership behavior. In their estimation, inspirational appeals, consultation, and ingratiation were transformational whereas rational persuasion, exchange, coalitions, upward appeals, and pressure where transactional. Tjosvold and Sun (2001) sorted their self-generated list of influence tactics on the basis of whether they were Gentle Persuasion or Contingent Control. The most prevalent meta-categorization of influence tactics divides the tactics into categories called *hard*, *soft* and *rational* strategies, in accordance with research done by Kipnis and Schmidt (1985). Several explanations have been given to justify the distinction between hard, soft, and rational categories of influence, ranging from differences between intrinsic and extrinsic motivation to differences in target empowerment (Yukl & Chavez, 2002). The movement toward consensus categorization of hard, soft, and rational influence strategies has been

somewhat problematic, though, because there is not a dominant theory of influence to guide consistent tactic assignment to different categories (Yukl & Chavez, 2002).

At first, meta-categories were delineated based on how different tactics grouped together when measured in various contexts using a variety of dependent variables. Kipnis and Schmidt (1985) grouped the tactics that they had identified and consolidated in the POIS as hard, soft, and rational: assertive tactics were hard strategies, friendliness and ingratiation were soft strategies, while rationality and exchange were rational strategies. Barry and Shapiro (1992) adopted this categorization scheme in studying the effect of combined tactics on target compliance. Deluga (1991) modified the categories slightly by adding upward appeals and coalitions to the hard category. He justified the hard, soft, and rational delineation based on the aims and power bases available to the agent (e.g., agents use soft tactics when they have little power and are seeking personal benefits). Falbe and Yukl (1992) provided a clearer description of the differences between hard and soft tactics. In their description, hard influence tactics employ positional power and authority, and tend to be used in an impersonal and manipulative way; whereas soft tactics employ personal power and promote power sharing. They left rationality to be its own category. Falbe and Yukl used these categories to simplify their analysis of influence tactics utilized in combinations (they analyzed category combinations instead of individual tactic combinations). McFarland, Ryan, and Kriska (2002) employed Falbe and Yukl's (1992) hard, soft, and rational categories to investigate the use of influence tactics in the course of job interviews. They asserted that some tactics force compliance while others flatter or convince, but the relationships between their underlying constructs of positional/personal power, manipulation/power sharing, and forcing/flattering were not explicitly theorized. Additionally,

they claimed that exchange, coalition, and legitimating tactics are neither hard nor soft, yet provided no additional explanation of how these tactics are related to the identified categories.

Yet another line of research has meta-categorized influence tactics based on empirical judgments of tactic "strength." Tepper and Schriesheim (1991) analyzed influence tactics based on their strength, which they defined as "the extent to which using each of the tactics takes control over the situation and the target by compelling them to comply and not allowing them the opportunity to decline." (Tepper, Brown, & Hunt, 1993, p 1910) Strong tactics thus minimize the target's ability to choose freely whether to comply with a request. Based on their analysis, they rated the tactics from soft to hard in the following order: friendliness (ingratiation), showing the target what to do, offering to initiate an exchange, rationality, upward appeal, coalitions, and punitive threats and actions (pressure). Bruins (1999) used a similar categorization logic in explaining his Power Use Model. He argued that agents select influence tactics mainly based on the tactic's softness versus hardness, which is a notion of how much freedom the tactic allows the target in deciding either to yield or to resist the influence attempt. Although Bruins conducted and presented empirical investigations that supported this assertion, he unfortunately died before his results were published. Van Knippenberg, van Eijbergen, & Wilke (1999) empirically derived hard and soft categories of influence tactics based on a similar concept of tactic strength. To differentiate hard from soft tactics for their study, they had independent raters rate the revised POIS tactics in terms of hardness and softness and in terms of friendliness and unfriendliness. They defined hard tactics as strong tactics that minimize the target's freedom in choosing to comply. Assertiveness, blocking and coalition tactics were rated as both hard and unfriendly; and differed significantly from rational, ingratiation, and exchange tactics, which were rated as both soft and friendly.

One of the more theoretically-grounded approaches to influence tactic meta-categorization was exemplified by Farmer, Maslyn, Fedor, and Goodman (1997), who parsed the upward influence tactics of the revised POIS into hard, soft, and rational meta-categories based on Kelman's (1958) theory of influence outcomes (compliance, internalization, and identification). They argued that hard tactics (assertiveness, coalition, and upward appeals) are used when the influencer expects compliance, soft tactics (ingratiation and exchange) are used when the influencer desires identification (i.e., reinforcement of the target's role relationship with the influencer), and rational tactics (rationality) are used when the influencer desires internalization (i.e., "when an individual accepts influence from another in order to maintain the congruence of actions and beliefs with his or her own value system", Kelman, 2006, p 4). They suggested that exchange can be a hard, soft, or rational tactic depending on the context in which it is used, and argued that exchange used in upward influence is most appropriately a soft tactic.

Despite the various explanations for grouping tactics into meta-categories, there has been a good deal of consistency in grouping the tactics into categories labeled hard, soft, and rational. The tactics that have been consistently grouped as soft tactics are inspirational appeal, consultation, ingratiation, and personal appeals. The tactics that are consistently identified as hard tactics are coalitions, legitimating, and pressure. The two 'wild card' tactics are rational persuasion and exchange—which are categorized differently by different researchers. Rational persuasion is sometimes identified as a category in and of itself, and sometimes it is included as a soft tactic. Exchange has been variously grouped as a rational tactic, a soft tactic, and a hard tactic, as was explicated by Farmer et al. (1997). Table 2 provides a summary of the ways that the influence tactics have been categorized as hard, soft and rational in various studies.

Table 2 *Models of Hard, Soft, and Rational Influence Factor Structures*

Model	Rational Tactics	Soft Tactics	Hard Tactics	Representative Studies
1	N/A	Inspirational Appeal, Consultation, Ingratiation, Personal appeal, **Rational Persuasion**, *Exchange*	Coalitions, Legitimating, Pressure	van Knippenberg et al. (1999)* Somech & Drach-Zahavy(2002) Emans et al. (2003)
2	N/A	Inspirational Appeal, Consultation, Ingratiation, Personal appeal, **Rational Persuasion**	Coalitions, Legitimating, Pressure, *Exchange*	
3	**Rational Persuasion**, *Exchange*	Inspirational Appeal, Consultation, Ingratiation, Personal appeal	Coalitions, Legitimating, Pressure	Kipnis & Schmidt (1985)* Deluga (1991)* Barry & Shapiro (1992)* Clarke and Ward (2006) Berson & Sosik (2007)
4	**Rational Persuasion**	Inspirational Appeal, Consultation, Ingratiation, Personal appeal, *Exchange*	Coalitions, Legitimating, Pressure	Farmer et al. (1997)*
5	**Rational Persuasion**	Inspirational Appeal, Consultation, Ingratiation, Personal appeal	Coalitions, Legitimating, Pressure, *Exchange*	Falbe & Yukl (1992) Tepper et al. (1998) Enns & McFarlin (2005)

* Study uses only tactics from revised POIS: assertiveness (pressure), exchange, ingratiation, rationality, coalition, and upward appeal (coalition)

1.4 Direction of Influence

Beginning with Kipnis et al.'s (1980) seminal article on influence tactics, researchers have purported that the direction of influence significantly affects the influence process. Part of this rationale is based on the observation that an influencing agent does not have access to the same range of influence tactics when influencing one's boss as when compared to influencing a subordinate. As such, one of Kipnis et al.'s (1980) stated objectives was to move beyond the leadership and power literature to consider a broader range of influence that included both upward and peer influence. Thus, in their initial study of influence, they purposely collected descriptions of upward, downward, *and* lateral influence attempts, and did not differentiate by direction of influence in their generation of the initial set of influence tactics. In their subsequent study, however, they did analyze differences in influence tactic selection based on direction of influence and found significant relationships between tactic and direction of influence for seven out of eight of the tactics. Specifically, they found that rational tactics were most associated with upward influence directed at one's boss, whereas assertive tactics and sanctions were used more often on subordinates. Ingratiation, exchange, and upward appeal were used more often with subordinates and peers than with bosses. Table 3 provides a summary of studies that have assessed the relationship of influence tactics and direction of influence, highlighting and qualitatively summarizing the direction of influence most associated with each tactic. Kipnis et al. (1980) also assessed the objectives behind influence attempts and found relationships between tactic selection and influence objectives, as well as between direction of influence and influence objectives. Their results suggest that the differences in tactic selection for different directions of influence may be driven by differences in objectives embedded within the different directions of influence.

In their review of Kipnis et al. (1980), Yukl and Falbe (1990) found similar patterns of directional effects (i.e., mean differences in tactic use across directions of influence) for ingratiation, upward appeal, exchange and pressure. Yukl and Tracey (1992) verified the directional results of Yukl and Falbe (1990) with a larger sample that allowed for more resolution to better discriminate differences in tactic use. As a result, they found that rational persuasion was used significantly more often in upward influence than downward or lateral, that ingratiation was used most in downward influence, and that personal appeals, coalitions, upward appeals, and exchange were used most in lateral influence. Yukl, Guinan, and Sottolano (1995) extended the original Kipnis et al. (1980) studies by examining the relationships between influence tactics, influence objectives, and directions of influence. They found a complex relationship between tactics, objectives, and directions of influence. Tactics such as pressure were used for different reasons in different directions (i.e., pressure was used to obtain personal benefits from bosses, but was used to assign work to and to change the behavior of subordinates). Thus, differences in tactic use between directions of influence cannot be completely explained by the objective of the influence attempt.

Although studies of influence have consistently found similar effects of the direction of influence on tactic selection (see Table 3), these effects pale in comparison to the unconditional differences in frequency of use between tactics. As Yukl and Falbe (1990) found and Yukl and Tracey (1992) reiterated, some tactics are used much more frequently than other tactics regardless of the direction of influence. Specifically, rational persuasion, consultation, inspirational appeals, and ingratiation were used far more frequently than other tactics, regardless of direction of influence. Yukl, Falbe, and Yuon (1993) provide a clear demonstration of the significant preeminence of some tactics over others. In their study of 1,094 influence incidents,

rational persuasion was used in 52% of all downward influence attempts, 56% of all lateral influence attempts, and 74% of all upward influence attempts. The highest percentage that any other tactic was used in any direction was the downward use of pressure, which was used in 22% of downward influence attempts. So, while it is true that rational persuasion is used more often in upward influence than downward influence, and pressure is used more often in downward influence than upward influence, one cannot lose sight of the fact that rational persuasion is used more than twice as often as pressure, even in downward influence. One must resist the urge to over-interpret the results of direction of influence on tactic selection, and avoid concluding, for instance, that upward influence typically employs rational persuasion and downward influence typically employs pressure. Instead, the results of Yukl, Falbe and Youn (1993) suggest that most influence attempts employ rational persuasion, regardless of direction.

Thus, Kipnis et al.'s (1980) desire to expand the domain of influence research has yielded fruit in that we now know quite a bit that we didn't know about specific influence behaviors and when they are used (e.g., tactic choice differs depending on the direction of influence). Bundling all directions of influence into a single research domain of "influence tactics" is sometimes effective as an empirical approach, but it is not necessarily useful when attempting to theorize a model to explain how various tactics are perceived by, and affect the attitudes and behaviors of, the targets of influence. The current study will limit its focus to a single direction of influence: downward influence on a subordinate. This approach hopes to isolate the specific psychological constructs relevant to subordinates who experience influence.

1.5 The Target Perspective of Influence

Erez, Rim, and Keider (1986) identified that, in addition to direction of influence, researchers must account for the perspective of the person being influenced. Their work

supported the hypothesis that targets of influence are motivated to maintain their sense of agency. Their study collected reports of influence from both agents and targets of influence using Kipnis et al.'s (1980) influence tactics and additional data on five possible reasons that the influence attempts were made. They then factor analyzed the items from Kipnis et al. (1980) and derived nine factors that are not entirely in line with the POIS, but are generally interpretable in the current discussion. They found that both agents and targets of influence focus on their own agency when describing which influence tactics are used and why. Agents described using strong tactics (rationality, assertiveness, blocking, and sanctions) and saw themselves as the prime mover in the influence event. Thus, they described the reason for influence as 'getting targets to do their job,' 'improving performance' and 'initiating change' (p. 30). Targets similarly highlighted their own autonomy in describing influence attempts. Targets were more likely to describe agents as using weaker tactics (ingratiation/manipulation, exchange, and passive blocking) that are more dependent on target acquiescence. Likewise, targets saw themselves as the central reason for the influence attempt and were more likely to describe the reasons for influence as 'to be asked for assistance on agent's job' (p. 30).

Xin and Tsui (1996) found similar results as Erez et al. (1986). They investigated matched pairs of agents and targets rating the same influence relationship from dual perspectives. Comparisons of agent and target reports of influence behavior in the study indicated that agents felt that they had used influence tactics more often than their targets perceived, and this was true for 5 of the 6 influence tactics measured. In other words, agents felt as though they were actively influencing targets when targets did not feel as though they were being influenced. Targets did not credit the agent as being the cause of their actions. Blickle (2003) likewise demonstrated low

Table 3 *Direction In Which Each Influence Tactic Was Most Frequently Used*

Influence Tactic	Kipnis et al, 1980	Erez, Rim, & Keider, 1986	Yukl & Falbe, 1990	Yukl & Tracey, 1992	Yukl, Falbe, & Youn, 1993	Xin & Tsui, 1996*
Rational Persuasion	↑			↑	↑	↑
Inspirational Appeal			↓	↓	↓	
Consultation					↓/↔	
Ingratiation	↓/↔		↓, ↔	↓	↓/↔	↓
Personal appeal				↔	↔	
Coalition		↔		↔	↔/↑	↑
Upward Appeal	↓/↔	↓/↔	↓/↔			↑
Legitimating				↔	↓/↔	
Exchange	↓/↔	↔/↑	↓/↔	↔	↓/↔	↓
Pressure			↓	↓	↓	
Assertiveness	↓	↓				↓
Sanctions	↓	↓				
Blocking	↔					

Arrows indicate that the given tactic was used significantly more often in the indicated direction

* Xin & Tsui (1996) sample only included upward and downward influence attempts

agent-target convergence (rational persuasion $r = .18$, ingratiation $r = .21$, upward appeals $r = .04$, and pressure $r = .17$) despite high retest correlations and concluded that perspectival differences are a significant factor in understanding interpersonal influence and are likely the result of both targets and agents using available social perceptions to differentially interpret ambiguous stimuli (cf. Sin, Nahrgang, & Morgeson, 2009). In the current study, we eliminate potential perspectival difference in reported influence behavior and consider only the target perspective of influence.

CHAPTER 2

HYPOTHESIZED TWO-FACTOR MODEL OF TARGET PERCEPTIONS OF LEADER INFLUENCE

As described above, previous efforts to categorize influence tactics have yielded somewhat consistent results. Hard tactics have consistently been described as tactics that seek to force compliance (Tepper et al., 1993; Bruins, 1999; Van Knippenberg et al., 1999; McFarland et al., 2002) and tend to draw on positional power in impersonal and manipulative ways (Falbe & Yukl, 1992). Pressure, coalitions, and legitimating have consistently been identified as hard tactics. Soft tactics, on the other hand, value and preserve the target's autonomy to choice to comply, and draw on the agent's personal and reward power. Inspirational appeals, consultation, ingratiation, and personal appeals have consistently been identified as soft tactics. Rational persuasion and exchange have been the wild cards in various categorizations of influence tactics, being grouped as either hard or soft or identified as a separate category. From the perspective of target-reported downward influence (i.e., the focus of the current study), we argue that both rational persuasion and exchange tactics should be grouped as soft tactics. Rational persuasion engages the target's logic and beliefs and preserves the target's autonomy by seeking intellectual buy-in from the target. Exchange tactics reinforce the value of the target's efforts by emphasizing reciprocity in the relationship; the underlying principle of exchange tactics is that compliance must be purchased through some type of exchange rather than compelled.

The target perspective of downward influence tactics should enhance the salience of autonomy when describing agent influence behavior. Both targets and agents describe influence events as though they themselves are the primary actor (Erez et al., 1986). If a target agrees with the agent's agenda from the outset, then the target does not perceive that he/she was influenced,

which is supported by the empirical data showing agents perceive a greater frequency of influence behavior than targets (Xin & Tsui,1996; Blickle, 2003). If the target does not agree with the agent's agenda, then there is a conflict that must be resolved. In downward influence, there is by definition an underlying structure that supports the positional power of the agent (otherwise it would not be downward influence). Thus, to be in conflict with the agent is a threat to the target's autonomy since the target is at a disadvantage vis-à-vis organizational position. The tactics that the agent employs can either draw upon this positional advantage and disregard the target's autonomy or engage the target's autonomy by seeking voluntary adherence to the influence request. The current study thus hypothesizes that two factors underlie the target's experience of downward influence behavior: (a) the perception that the agent is seeking to force compliance by employing the tactics that have been categorized as *hard* tactics, or (b) the target perceives that the agent is seeking to achieve *voluntary* acquiescence by employing the tactics that have been categorized as *soft* tactics.

> *Hypothesis 1*: Two latent factors underlie target descriptions of downward influence behavior: (a) autonomy-threatening *hard influence* and (b) autonomy-reinforcing *soft influence*. The hard influence tactic factor is reflected by pressure, legitimating, and coalition tactics. The soft influence tactic factor is reflected by rational persuasion, consultation, ingratiation, inspirational appeals, personal appeals, and exchange tactics.

CHAPTER 3

OUTCOMES OF INFLUENCE

Theory about the outcomes of leader influence tactics (Falbe & Yukl, 1992; Yukl, 1994; Yukl & Tracey, 1992; Yukl et al., 1996; Aguinis & Adams, 1998) has repeatedly emphasized three key responses to an influence attempt. These three behavioral responses to influence are labeled commitment, compliance, and resistance. Commitment occurs "when a target person agrees internally with an action or decision, is enthusiastic about it, and is likely to exercise initiative and demonstrate unusual effort and persistence in order to carry out the request successfully" (Falbe & Yukl, 1992, p. 639). Compliance occurs "when an individual accepts influence from another person or a group in order to attain a favorable reaction from the other—either to gain a specific reward or avoid a specific punishment controlled by the other, or to gain approval or avoid disapproval from the other" (Kelman, 2006, p. 3). Resistance occurs "when the target person is opposed to the requested action and tries to avoid doing it by refusing, arguing, delaying, or seeking to have the request nullified" (Falbe & Yukl, 1992, p. 640).

Given our above hypothesis that leader downward influence tactics are perceived by target subordinates as reflecting two underlying factors—autonomy-reinforcing soft influence and autonomy-threatening hard influence—we now theorize that these two higher-order influence factors will relate differentially to the tripartite model of influence outcomes (commitment, compliance, and resistance; Falbe & Yukl, 1992).

If targets of downward influence perceive that their autonomy is being undermined, they are more likely to act to protect and preserve that autonomy (Lawrence & Robinson, 2007)). Because targets of downward influence are positionally subordinated, when they experience hard tactics, the only means through which they can exert their autonomy is by resisting the agent's

agenda, using any of a variety of responses that serve the common function of resistance. Of the various resistance behavioral responses that are substitutable reactions to alleviate a threat to one's autonomy, the target will choose the behavioral response most available to them (Hulin, Roznowski, & Hachiya, 1985; Hanisch, Roznowski, & Hulin, 1998). Thus, although many different behavioral instantiations of resistance may be possible, the general hypothesized phenomenon is that target perceptions of hard influence will lead to target resistance to influence, for the sake of preserving autonomy.

> *Hypothesis 2:* The hard influence factor is positively related to the target's resistance to influence.

Conversely, if targets perceive that their autonomy is not threatened, then they are free to internalize the agent's request without sacrificing that autonomy (Deci & Ryan, 1987, 2000; Meyer & Gagne, 2008). Thus the target's possible intrinsic motivation to complete the requested task will be preserved. This notion is also consistent with the theory behind the large positive effects of participative goal setting on goal commitment (Erez, Earley, & Hulin, 1985; Klein, Wesson, Hollenbeck, & Alge, 1999) and the small positive effects of participative goal setting on performance (Erez et al., 1985; Latham & Yukl, 1975). That is, participatively set goals lead to better performance than tersely assigned goals, but lead to no better performance than assigned goals that offer a rationale for the goal (Latham, Erez, & Locke, 1988). From the perspective of the current paper, we contend that offering a rationale for an assigned goal constitutes an autonomy-reinforcing soft influence tactic, which is functionally isomorphic with allowing the subordinates to participatively assign their own goals. Soft influence, in all its forms, should foster commitment to the assigned task. Thus, targets who perceive soft influence are more likely to voluntarily align themselves with the desires of the agent and to show commitment towards the agent's request.

Hypothesis 3: The soft influence tactic factor is positively related to the target's commitment to the influence attempt.

In contrast to target resistance and commitment, target compliance in response to an agent's influence attempt will likely vary based on the situation, specifically the factors that render the situation more or less favorable for the leader (Festinger, 1953; Raven, 1993). Strong positional power of the agent, good relations between the leader and the member, and a well-defined task would likely promote target compliance, whereas weak positional power, poor relations and an ill defined task would likely promote non-compliance (Fiedler, 1971). Since these situational variables have not been consistently measured in influence tactic research, it is likely that any group of influence tactic studies represents a range of possible situations which afford various levels of compliance in response to either hard or soft influence. Further, because attaining target compliance is the putative primary function of all influence tactics, it makes sense that any tactic consistently in use by agents would attain some level of compliance, lest it become extinguished due to ineffectiveness. That is, reinforcement theory would explain that for an influence tactic to attain repeated use it would need to garner some threshold level of target compliance. Thus, both hard and soft influence are likely capable of achieving target compliance, although the magnitude of the relationship is likely dependent upon unmeasured situational variables.

Hypothesis 4: Both (a) the hard influence factor and (b) the soft influence factor predict target compliance with the influence attempt.

Although both hard and soft influence should successfully achieve target compliance, soft influence demonstrates greater respect for the target's autonomy and thereby supports the formation of a reciprocal working relationship. Thus, target perceptions of soft influence should predict a positive (more caring and autonomy-reinforcing, less coercive) working relationship.

One common measure of working relationships in leader-follower dyads is Leader Member Exchange (LMX: Dulebohn, Bommer, Liden, Brouer, & Ferris, *in press*; Scandura & Graen, 1984). LMX theory argues that relationships between leaders and subordinates are generated through social exchanges (Cashman, Dansereau, Graen, & Haga, 1976; Liden, Wayne, & Stilwell, 1993). High quality relationships are typified by healthy exchange relationships that are based on trust and do not require exacting and immediate compliance (Tepper, Uhl-Bien, Kohut, et al., 2006). Soft influence includes tactics engage in the exchange of ideas (rational persuasion, consultation), values (inspirational appeals), social esteem (ingratiation, personal appeals), and material goods (exchange); whereas hard influence foregoes exchange and instead employs social force (coalitions) and legal/formal force (legitimating, pressure) to achieve conformity. Thus, soft influence should positively predict LMX relationships.

Hypothesis 5: The soft influence factor positively predicts positive LMX relationship quality.

CHAPTER 4

STUDY 1: TESTING META-ANALYTIC FACTOR MODELS OF TARGET-REPORTED DOWNWARD INFLUENCE

The current study uses meta-analysis to assess the higher-order factors underlying how targets perceive downward influence behavior, as measured by the Influence Behavior Questionnaire (IBQ: Yukl & Falbe, 1990). The IBQ assesses nine different influence tactics: rational persuasion, inspirational appeal, consultation, ingratiation, exchange, personal appeal, coalitions, legitimating, and pressure (see Table 1 for definitions of each tactic). Two tactics (apprising and collaboration) were more recently added to the IBQ (Yukl, Chavez, & Seifert, 2005), and could not be included in this analysis due to the paucity of data including these tactics.

4.1 Literature Review and Inclusion Criteria

To identify studies appropriate for this meta-analytic study, a search was conducted using PsycINFO with PsycARTICLES for all articles with the keyword "influence tactics", resulting in a total of 287 articles identified. Because we were targeting studies that used the Influence Behavior Questionnaire (IBQ), an additional search for all articles that cited key papers by Yukl and colleagues (Yukl & Falbe, 1990; Falbe & Yukl, 1992; Yukl, Lepsinger, Lucia, 1992; Yukl, & Tracey, 1992; Yukl, & Seifert, 2002; Yukl, Chavez, & Seifert, 2005) was conducted using the Social Sciences Citation Index, identifying a total of 177 articles. All articles identified by these searches were thoroughly reviewed for necessary information. Articles that reported inter-correlations among influence tactics were coded for direction of reported influence (upward, downward, or lateral), perspective of report (agent or target of influence), and influence tactic measure employed. Articles were included in the meta-analysis if they contained at least three

tactics measured by the IBQ. Sixteen studies were identified that provided correlations of target-reported downward influence using the IBQ.

4.2 Analytic Strategy

A meta-analysis of the inter-correlations amongst the nine IBQ leader influence tactics (rational persuasion, consultation, inspirational appeal, ingratiation, personal appeal, coalitions, exchange, legitimating, and pressure) was conducted. This meta-analysis was based upon the 16 articles that used the IBQ to measure target reports of downward influence, and entailed the meta-analytic calculation of 36 separate bivariate correlations, corresponding to the associations amongst the nine influence tactics enumerated above. Our goal was to use these 36 meta-analytic effects as input for multi-variable/structural equation modeling—a practice recommended by Viswesvaran and Ones (1995) and Shadish (1996), and exemplified by Bhaskar-Shrinivas, Harrison, Shaffer, and Luk (2005); Colquitt, Conlon, Wesson, Porter, & Ng (2001); Colquitt, Lepine, and Noe (2000); Conway (1999); LePine, Podsakoff, and LePine (2005); Meriac, Hoffman, Woehr, and Fleisher (2008); Podsakoff, Whiting, Podsakoff, and Blume (2009); Thoresen, Kaplan, Barsky, Warren, and De Chermont (2003); and many others.

One possible complication with performing multi-variable analyses and/or structural equation modeling on a meta-analytic correlation matrix is the pairwise deletion problem: each bivariate correlation in the correlation matrix is based on a different subsample, usually with a different sample size (Marsh, 1998; Newman, Jacobs, & Bartram, 2007). So if a meta-analytic factor analysis involves 9 variables, there are 36 different bivariate meta-analyses included, each with a different N (i.e., 36 different N's). By choosing any particular sample size for the overall analysis (e.g., harmonic mean N, Viswesvaran & Ones, 1995), the researcher is by necessity misrepresenting the precision of some of the bivariate effects (this issue has been discussed by

Furlow & Beretvas, 2005; Marsh, 1998; Newman, 2003; and Viswesvaran & Ones, 1995). Fortunately, Cheung and Chan (2005, 2009) have recently demonstrated an elegant solution to the problem of meta-analytic SEM. The approach, known as Two Stage Structural Equation Modeling (TSSEM), maximizes the benefits of both univariate and multivariate meta-analytic approaches. A univariate approach is first used to estimate pooled correlations, which are like sample-size weighted average correlations across the datasets. These pooled correlations are estimated by imposing equality constraints on each correlation across the primary study samples, using the LISREL 8.7 (Joreskog & Sorbom, 2004) multigroup SEM routine. The input data file and syntax for this routine are available in Appendix A.

Further, an asymptotic covariance matrix is estimated that corresponds to the meta-analytic pooled correlation matrix. This asymptotic covariance matrix captures the variation and covariation resulting from disparate sample sizes of the various correlations. This asymptotic covariance matrix is then used as the weighting matrix in the second stage of analysis when fitting the structural equation model. In other words, the program treats each meta-analytic correlation as though it is based upon a different sample size (which, in fact, it is). Using this approach eliminates inflation of the chi squared statistic and allows for more accurate model fitting (Cheung & Chan, 2005, 2009). The TSSEM software that facilitates this analysis is provided by Cheung (http://courses.nus.edu.sg/course/psycwlm/internet/tssem.zip). An intuitive example of this approach was provided by Fan, Jackson, Yang, Tang, & Zhang (2010), who also conducted confirmatory factor analysis on meta-analytic subscale correlations from a standard psychometric instrument, as done in the current paper.

4.2.1 Homogeneity of Correlation Matrices

Using the TSSEM technique, the homogeneity of correlation matrices across all studies was first tested. This technique accounts for missing correlation data and calculates the pooled correlation and covariance matrices for all groups using the TSSEM software and LISREL 8.7. For this analysis, the sixteen data sets collected from the identified studies were formatted as symmetric correlation matrices in a single data file. Syntax was prepared for TSSEM input which identified the number of subjects and subset of variables in each data set (note: TSSEM can accept either symmetric or full matrices as input). Using this input, the TSSEM program generated the LISREL syntax required to calculate the pooled correlation matrix by constraining the standardized correlations across studies. The pooled common correlation matrix was then used as the constrained model to test the homogeneity of constituent matrices (the unconstrained models), using a chi-square difference test and the comparative fit index (CFI; Bentler, 1990). In addition to the pooled correlation matrix, LISREL generates the asymptotic covariance matrix, which is used as the weighting matrix when fitting the pooled correlation matrix to the factor model in the second stage.

4.2.2 Plausible Alternative Factor Structures

As discussed above, Yukl and Chavez (2002) outlined the various ways in which influence tactics have been parsed into the categories of *hard*, *soft*, and *rational* tactics (Table 2). Inspirational appeal, consultation, ingratiation, and personal appeals have consistently been identified as *soft* tactics. Pressure, legitimating, and coalitions have consistently been identified as *hard* tactics. Rational persuasion has been sometimes treated as a separate category, and it has sometimes been grouped with Soft tactics. Exchange has variously been grouped with all three tactic categories: *hard*, *soft*, and *rational*. These various constructions of tactic meta-categories

suggest potential higher-order factor structures underlying the influence tactics. Based on Yukl and Chavez's (2002) outline of tactic meta-categories, a set of five plausible structural models were summarized, as shown in Table 2. These 5 models were used as the basis for analyzing the higher-order factor structure of target-reported downward influence.

4.2.3 Model Testing

Confirmatory factor analysis (CFA) was conducted on the pooled correlation matrix with the asymptotic covariance matrix as a weighting matrix using LISREL 8.7 to test each of the proposed models of target-reported downward influence. The pooled covariance matrix, corresponding numbers of studies (*k*) and sample sizes (*N*) are reported in Table 4, and the asymptotic covariance matrix is reported in the Appendix along with annotated LISREL syntax that produced the CFA results under the TSSEM routine.

The TSSEM procedures outlined here are advantageous in that correlation-specific sample sizes are used to calculate the pooled correlation matrix, thus best accounting for missing variables in the sample data sets. The asymptotic covariance matrix is calculated based on the actual sample sizes for each pair of correlations. The fit of the proposed CFA models was evaluated using absolute close fit and incremental close fit. The Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) and Standardized Root Mean Square Residual (SRMR) were used to assess absolute close fit, and the comparative fit index (CFI; Bentler, 1990) and Tucker-Lewis index (TLI; Tucker & Lewis, 1973; also known as the non-normed fit index, NNFI) were used to assess incremental close fit. Acceptable model fit is suggested by RMSEA values less than 0.08 (Browne & Cudeck, 1992; Hu & Bentler, 1999). For the NNFI and CFI indices, acceptable model fit is suggested by values greater than 0.90 (Bentler, 1990; Hu & Bentler, 1995; cf. Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004).

Table 4 *Meta-analytic Pooled Correlation Matrix for Target Reported Downward Influence Measured with the IBQ*

Influence Tactics:	RAT	INSP	CONS	INGR	EXCH	PERS	COAL	LEGT
Rationality								
Inspiration	.64							
Consultation	.65	.59						
Ingratiation	.49	.64	.49					
Exchange	.37	.42	.36	.51				
Personal Appeal	.32	.43	.30	.54	.54			
Coalition	.30	.35	.22	.40	.53	.42		
Legitimating	.37	.36	.24	.38	.42	.37	.58	
Pressure	.10	.09	.04	.11	.22	.27	.37	.40

k = 16
Total N = 1774

4.3 Results

4.3.1 Assessment of Model Fit

In accordance with procedures outlined by Cheung and Chan (2005, 2009), homogeneity of the constituent matrices was tested, which compared a constrained model with equal correlations across samples versus an unconstrained model that allows different correlations across samples. Due to the effects of sample size on chi-square test results, practical fit indices are also reported. For the constrained model with equal correlation matrices across samples: χ^2 (327) = 1036.17, $p < .05$, CFI = .89, TLI = .80, RMSEA = .14, 90% CI for RMSEA: .13 - .15, and SRMR = .04. The homogeneity of this sample is lower than desired, and is likely due to real differences in the structure and coincidence of influence tactics across various organizational cultures and job tasks, as well as systematic attribution and judgment errors inherent to retrospective descriptions of another person's influence behaviors and intentions, consistent with observed differences in pairwise comparisons of target versus agent reports (Yukl & Falbe, 1990). Based on these results, all correlation matrices included were judged to be at least marginally homogeneous, and none were selected for *post hoc* exclusion. The meta-analytic pooled correlation matrix is presented in Table 4.

Factor loadings and fit indices for the baseline single-factor model and the five plausible models of influence tactic meta-categories are provided in Table 5. The two-factor model with *soft* and *hard* tactics in which rational persuasion and exchange are grouped as *soft* tactics (labeled Model 1; see Figure 2), was judged to be the best-fitting model: χ^2 (26) = 364.19, $p <$ .05, RMSEA = .086, 90% CI for RMSEA: 0.078, 0.094, CFI = .93, NNFI = .90, SRMR = .12. Model 3, a three-factor model of *hard, soft,* and *rational* influence in which exchange is grouped as a *rational* tactic, had better fit indices: χ^2 (24) = 318.01, $p < .05$, RMSEA = .083, 90% CI for

RMSEA: 0.075, 0.091, SRMR = .11, CFI = .94, NNFI = .91, but the *rational* tactics factor and the *soft* tactics factor in this model collapsed $\psi = 1.0$, reproducing Model 1. We judged the fit of Model 1 to be adequate (cf. Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004), suggesting that the higher-order factors of *hard* and *soft* influence provide the best, most parsimonsious explanation of the meta-analytic correlations amongst target reports of the nine influence tactics from the IBQ. Completely standardized factor loadings of the specific influence tactics onto the *hard* and *soft* influence factors of Model 1 ranged from $\lambda = .43$ to .83, consistent with the model. The two higher-order factors for all models were highly correlated ($\psi = .72$ for Model 1, and all ψ's > .64 for alternative models),

which is not surprising since several studies have shown that multiple tactics are often used in combination (Falbe & Yukl, 1992). However, estimated latent factor intercorrelations this large do indeed threaten discriminant validity of the two factors—a point to which we return later when presenting the results of the incremental criterion validity analyses. At this point, we note the high correlations between factors suggest that *hard* and *soft* tactics may be frequently used in combination, which is also consistent with previous findings (Emans, Munduate, Klaver, & van de Vliert, 2003). To help verify the discriminant validity of the two factors (Campbell & Fiske, 1959; Widaman, 1985), we estimated an alternative model that specified a single, higher-order influence factor (i.e., a model in which *hard* and *soft* influence are correlated 1.0), and compared the fit of this alternative [χ^2 (27) = 511.07. RMSEA = .10, SRMR = .16; CFI = .90; NNFI = .87] against our hypothesized model. Results suggest the two-factor model provides better fit to the data than does the one-factor model [χ^2 (1) = 146.88 ($p < .05$); ΔCFI = .03]. As a second piece of evidence supporting discriminant validity between *hard* and *soft* tactics, we next set out to

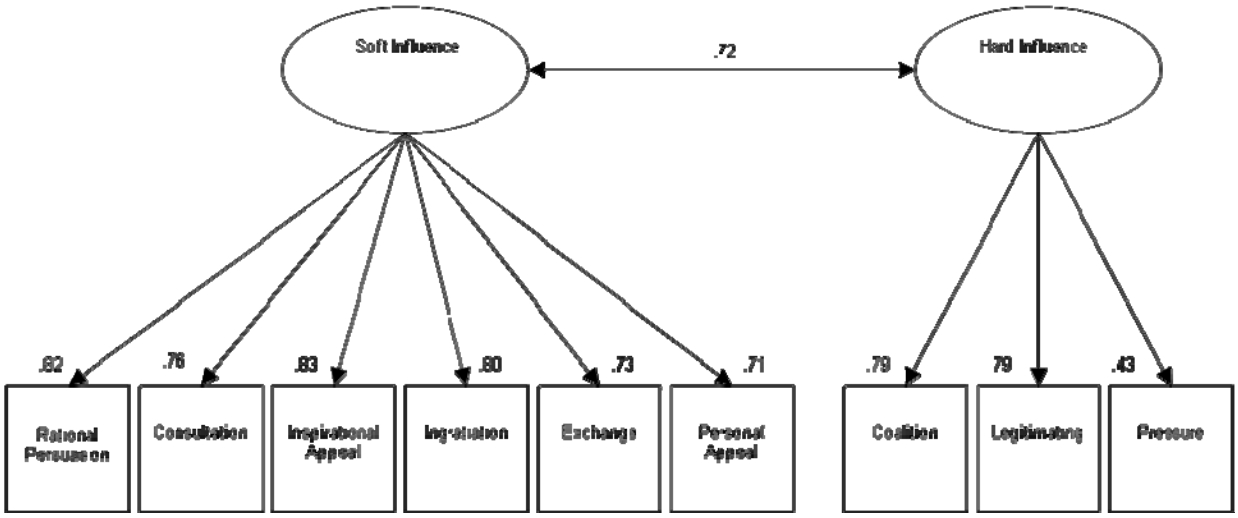
determine whether each factor (*hard* and *soft* influence) would predict hypothesized follower outcomes while controlling for the other factor. These analyses are described in Study 2.

Table 5 *Influence Model Comparisons*

	1 Factor	2 Factor Models		3 Factor Models		
		Model 1	Model 2	Model 3	Model 4	Model 5
		[a]Soft +**Rational** +*Exchange* [b]Hard	[a]Soft +**Rational** [b]Hard +*Exchange*	[a]**Rational** +*Exchange* [b]Soft [c]Hard	[a]**Rational** [b]Soft +*Exchange* [c]Hard	[a]**Rational** [b]Soft [c]Hard +*Exchange*
Loadings						
Rational Persuasion	.82	.82[a]	.82[a]	.80[a]	1.0[a]	1.0[a]
Inspirational appeal	.83	.83[a]	.84[a]	.84[b]	.83[b]	.84[b]
Consultation	.75	.76[a]	.75[a]	.76[b]	.76[b]	.75[b]
Ingratiation	.80	.80[a]	.80[a]	.80[b]	.80[b]	.80[b]
Personal Appeal	.71	.71[a]	.72[a]	.72[b]	.71[b]	.72[b]
Exchange	.74	.73[a]	.78[b]	.70[a]	.73[b]	.77[c]
Coalition	.73	.79[b]	.76[b]	.79[c]	.79[c]	.76[c]
Legitimating	.71	.79[b]	.75[b]	.80[c]	.80[c]	.75[c]
Pressure	.35	.43[b]	.40[b]	.44[c]	.44[c]	.40[c]
ψ_{12}		.72	.80	1.00	.81	.82
ψ_{23}				.64	.70	.79
ψ_{13}				.79	.63	.68
Model Fit						
. $\chi^2(df)$	511(27)	364(26)	396(26)	318(24)	356(25)	393(25)
RMSEA	.10	.086	.090	.083	.086	.091
NFI	.90	.93	.92	.93	.93	.92
NNFI	.87	.90	.89	.91	.90	.89
CFI	.90	.93	.92	.94	.93	.92
RFI	.86	.90	.89	.90	.90	.88
GFI	.98	.98	.98	.98	.98	.98
SRMR	.16	.12	.12	.11	.12	.12

Note: [a,b,c] Tactic loadings with same superscript reflect the same factor. Factor labels appear in column heading (e.g., for Model 1, a = *soft*, b = *hard*, etc.).

Figure 2 *Two-Factor Model of Target-Reported Downward Influence*



CHAPTER 5

STUDY 2: INCREMENTAL VALIDITY OF *HARD* AND *SOFT* INFLUENCE FACTORS

5.1 Method

In Study 2, we investigated whether adequate disciminant validity exists between the higher order hard and soft influence factors identified in Study 1 (see Figure 2). By necessity, this analysis could only be performed on primary studies that reported inter-correlations of all nine of the IBQ tactics, as well as a meaningful criterion variable. These studies enabled the calculation of study-specific hard and soft factors that could be used to assess the incremental validity of each tactic over and above the corresponding higher-order factor. Three of the data sets used in Study 1 met these criteria: Libo's (1996) dissertation on hospital manager-physician dyads, Emans et al.'s (2003) study of influence tactics used with Spanish police officers, and Yukl et al.'s (2008) validation study of the IBQ-G survey.

5.1.1 Brief Description of Included Samples

Libo's (1996) research was conducted in a hospital setting with hospital manager – physician dyads and assessed the goals, use, and outcomes of the hospital managers' downward influence tactics. The study measured dyad interdependence, authority relationships, as well as the manager's clinical expertise, bases of power, and overall effectiveness. The influence outcome measures were specifically tailored to the hospital setting. Target commitment, compliance, and resistance were measured with 1 item each on a six point Likert scale, based on construct definitions provided by Yukl (1994). Managers' clinical expertise was measured using a 4 item scale derived from Podsakoff, Tudor, and Schuler's (1983) scale of perceived technical expertise. Managerial effectiveness was measured with a single, nine-point item (Yukl and Tracey, 1992). Seven bases of manager power (legitimate, coercive, reward, expert, referent,

informational, and charisma) were measured with a 14-item scale adapted for the hospital setting from previous scales used by Schriesheim and Hinkin (1989, 1990) and Yukl and Falbe (1991).

Emans et al (2003 investigated the efficacy of influence tactics in achieving commitment and compliance. Commitment and compliance were measured using the two subscales of a Spanish translation of the Compliance with Superior's Wishes Scale (alphas = .84 and .81, respectively), developed by Rahim (1988) and Rahim and Buntzman (1988). Influence behavior was measured using the target IBQ (Falbe & Yukl, 1992). In their study, Emans et al. draw a distinction between hard and soft influence tactics (which they referred to as forcing and non-forcing tactics)

Yukl et al (2008) conducted a validation of the IBQ-G survey through a series of studies. Only one group, which consisted of MBA students with regular full-time jobs, contained exclusively target-reported downward influence. In order to establish criterion related validity for the new instrument, the study measured target commitment and leader-member exchange relationships (LMX) to show that the influence tactics related to outcome variables in expected ways. Target commitment was measured with a two-item scale ("How many influence attempts by this person resulted in your complete commitment?" and "How often did the person successfully influence you to do something?") with five anchored response choices. This scale demonstrated adequate internal consistency (alpha ~ .80). LMX was measured with the LMX-7 (Scandura & Graen, 1984) two or three weeks following the initial survey of influence tactics to reduce common method bias.

5.2 Data Analysis

Using LISREL 8.7, the two factor structural model of *hard* and *soft* influence (Model 1) was constructed from the reported correlation tables within each of the three primary studies identified above. This structural model was used to derive the local loadings of each tactic on its

associated factor (lambda matrix) as well as the factor and criterion variable inter-correlations (phi matrix). These loadings and inter-correlations were then used to construct a total correlation table, which included all lower-order influence tactics, both higher-order influence factors, and the criterion variable(s) included in the each study under consideration. For instance, from the Libo (1997) study, a two factor (hard and soft influence) model predicting target commitment was constructed. The correlation tables for each study are reported in Tables 6 through 8. Regression analysis was conducted on the resulting model to assess the regression coefficients and R^2 values for each higher-order factor, controlling for the other higher-order factor.

5.3 Results

The results of incremental validity analysis of *hard* and *soft* influence factors are shown in Table 9. Hypothesis 2, which stated that the hard influence factor is positively related to target resistance to influence, was supported. The hard influence factor significantly and uniquely predicted target resistance to influence ($\beta = .41$, $R^2 = .10$, $\Delta R^2 = .12$). Hypothesis 3, which stated that the soft influence tactic factor is positively related to target commitment to the influence attempt, was also supported. The soft influence factor significantly and uniquely predicted target commitment (Libo,1996: $\beta = .58$, $R^2 = .28$, $\Delta R^2 = .23$; Yukl et al., 2008: $\beta = .74$, $R^2 = .42$, $\Delta R^2 = .50$; Emans et al., 2003: ($\beta = .47$, $R^2 = .15$, $\Delta R^2 = .20$). Hypothesis 4, which stated that both the hard and the soft influence factors predict target compliance with the influence attempt, was inconsistently supported. The hard influence factor significantly and uniquely predicted compliance ($\beta = .31$, $R^2 = .04$, $\Delta R^2 = .06$) in Libo's (1996) sample, whereas the soft influence factor significantly and uniquely predicted target compliance ($\beta = .37$, $R^2 = .09$, $\Delta R^2 = .12$) in Emans et al.'s (2003) study. Hypothesis 5, which stated that the soft influence factor positively predicts working relationship quality, was supported: soft influence significantly and uniquely predicted LMX ($\beta = .98$, $R^2 = .71$, $\Delta R^2 = .85$).

Based on the incremental validity results reported above, we continue to assert that two, oblique latent factors (hard and soft) underlie target descriptions of downward influence behavior. Hard (autonomy-threatening) influence uniquely predicts target resistance, whereas soft (autonomy-reinforcing) influence uniquely predicts target commitment and LMX. The analysis of incremental validity supports the presence of two distinct factors that uniquely predict influence outcomes.

Table 6 *Correlations between Influence Tactics, General Factors, and Outcomes: Libo, 2006*

	Soft						Hard				
	RAT	INSP	CONS	INGR	EXCH	PERS	COAL	LEGT	PRES	Soft	Hard
Influence Tactics:											
Rationality											
Inspiration	.81										
Consultation	.80	.85									
Ingratiation	.59	.79	.70								
Exchange	.48	.65	.56	69							
Personal Appeal	.28	.49	.41	.64	.58						
Coalition	.47	.53	.42	.52	.67	.44					
Legitimating	.41	.36	.27	.35	.49	.30	.76				
Pressure	.32	.37	.29	.35	.53	.40	.63	.55			
Soft Influence	.84	.96	.88	.82	.69	.53					
Hard Influence							.97	.78	.66	.59	
Outcomes:											
Commitment	.57	.50	.52	.37	.22	.18	.24	.19	.20	.53	.25
Compliance	-.06	-.02	-.08	.01	.18	.06	.18	.21	.10	-.02	.19
Resistance	.06	.06	.00	.11	.15	.10	.28	.26	.28	.07	.31

Note: N = 125. RAT = Rational Persuasion, INSP = Inspirational Appeal, CONS = Consultation, INGR = Ingratiation, EXCH = Exchange, PERS = Personal Appeal, COAL = Coalition, LEGT = Legitimating, PRES = Pressure,

Table 7 *Correlations between Influence Tactics, General Factors, and Outcomes: Emans et al, 2003*

	Soft						Hard				
	RAT	INSP	CONS	INGR	EXCH	PERS	COAL	LEGT	PRES	Soft	Hard
Influence Tactics:											
Rationality											
Inspirational Appeal	.63										
Consultation	.76	.63									
Ingratiation	.38	.68	.38								
Exchange	.49	.55	.47	.56							
Personal Appeal	.38	.61	.48	.68	.57						
Coalition	.01	.27	.10	.26	.36	.29					
Legitimating	.13	.20	.01	.31	.29	.15	.44				
Pressure	-.20	.01	-.27	.13	.01	.07	.31	.46			
Soft Influence	.72	.86	.73	.73	.69	.71					
Hard Influence							.57	.77	.57	.28	
Outcomes											
Commitment	.48	.29	.44	.20	.20	.14	-.03	-.08	-.26	.39	-.16
Compliance	.32	.24	.28	.17	.20	.14	-.08	-.05	-.23	.30	-.14

Note: N = 125. RAT = Rational Persuasion, INSP = Inspirational Appeal, CONS = Consultation, INGR = Ingratiation, EXCH = Exchange, PERS = Personal Appeal, COAL = Coalition, LEGT = Legitimating, PRES = Pressure.

Table 8 *Correlations between Influence Tactics, General Factors, and Outcomes: Yukl et al, 2008*

	Soft						Hard				
	RAT	INSP	CONS	INGR	EXCH	PERS	COAL	LEGT	PRES	Soft	Hard
Influence Tactics:											
Rationality											
Inspirational Appeal	.48										
Consultation	.33	.29									
Ingratiation	.23	.32	.18								
Exchange	.03	.01	.04	.24							
Personal Appeal	-.06	.19	.09	.24	.54						
Coalition	.06	.13	-.03	.41	.38	.16					
Legitimating	.32	.08	.11	.14	.28	.06	.44				
Pressure	-.20	-.21	-.17	.11	.40	.32	.38	.31			
Soft influence	.58	.59	.53	.52	.21	.25					
Hard Influence							.76	.59	.50	.30	
Outcomes											
Commitment	.45	.39	.45	.20	-.01	-.02	-.05	.00	-.15	.65	-.08
LMX	.50	.53	.51	.37	.02	.15	-.03	.07	-.30	.84	-.09

Note: N = 70. RAT = Rational Persuasion, INSP = Inspirational Appeal, CONS = Consultation, INGR = Ingratiation, EXCH = Exchange, PERS = Personal Appeal, COAL = Coalition, LEGT = Legitimating, PRES = Pressure.

Table 9 *Incremental Validity of Soft Influence Factor and Hard Influence Factor in Predicting Outcome Variables*

	Soft Influence $R^2(\Delta R^2, \beta)$	Hard Influence $R^2(\Delta R^2, \beta)$	Overall R^2
Libo 1996, $N = 125$			
Commitment	**.28**(**.23**, **.58**)	.06(.01, -.09)	**.29**
Compliance	.00(.02, -.20)	**.04**(**.06**, **.31**)	.06
Resistance	.00(.02, -.17)	**.10**(**.12**, **.41**)	**.12**
Emans et al., 2003, $N = 140$			
Commitment	**.15**(**.20**, **.47**)	.03(**.08**, **-.29**)	**.23**
Compliance	**.09**(**.12**, **.37**)	.02(**.05**, **-.24**)	**.14**
Yukl et al., 2008, $N = 70$			
Commitment	**.42**(**.50**, **.74**)	.01(**.09**, **-.30**)	**.51**
LMX	**.71**(**.85**, **.98**)	.01(**.15**, **-.41**)	**.86**

Note: Items in bold are significant $p < .05$. Strong negative regression coefficients (β) are likely caused by multicollinearity due to strong relationship between factor 1 and factor 2.

CHAPTER 6

STUDY 3: ANALYSIS OF THE SPECIFIC VALIDITY OF INDIVIDUAL INFLUENCE TACTICS BEYOND THE TWO HIGHER-ORDER FACTORS

6.1 Method

In Study 3, we investigate whether the criterion validity of the higher-order hard and soft influence factors identified in Study 1 accounts for the entire relationship between lower-order tactics and various outcome variables. That is, we next sought to assess whether lower-order tactics retained any unique relationships with outcome variables, after the higher-order effects were partialled out. This analysis follows the regression procedures outlined in Sanders, Lubinski, and Benbow (1995) and Judge, Erez, Thoreson, & Bono (2002). As in Study 2, this analysis could only be performed on primary studies that reported inter-correlations of all nine of the IBQ tactics as well as a meaningful criterion variable. We used the study-specific hard and soft factors estimated in Study 2 to assess the incremental validity of each tactic over and above the corresponding higher-order factor. All three data sets from Study 2 provided useful criterion variables for analysis: Libo's (1996) dissertation on hospital manager-physician dyads, Emans et al.'s (2003) study of influence tactics used with Spanish police officers, and Yukl et al.'s (2008) validation study of the IBQ-G survey.

6.2 Data Analysis

As in Study 2, the two factor structural model of *hard* and *soft* influence (Model 1) was constructed from the reported correlation tables within each of three primary studies identified above using LISREL 8.7. This structural model was used to derive the local loadings of each tactic on its associated factor (lambda matrix) as well as the factor and criterion variable inter-correlations (phi matrix). These loadings and inter-correlations were then used to construct a

total correlation table, which included all lower-order influence tactics, both higher-order influence factors, and the criterion variable(s) included in the each study under consideration (see Tables 6 through 8). Regression analysis was conducted on the resulting model to assess the regression coefficients and R^2 values for each of the tactics, while controlling for the higher-order factor. The approach of performing a multiple regression analysis on an output matrix from a CFA model has the advantage that the factor loadings of each influence tactic onto its higher-order factor do not vary as a function of which criterion variable is included in the model—as they would if these analyses were performed completely as structural equation models. The regression approach also mimics the analyses conducted by Judge et al. (2002).

6.3 Results

Results of the tests of specific validity for the lower-order influence tactics are given in Table 10. Table 10 is arranged as follows: within each column, the validity (R^2) of the higher-order factor (i.e., 'Common Factor') is presented in the top row, followed by the incremental validity (ΔR^2) due to adding each specific trait, after controlling for the higher-order factor. For example, in the Libo (2006) study, the higher-order factor Soft Influence accounts for 28% of the variance in Commitment. The lower-order tactic, "Rational Persuasion" accounts for an additional 5% of the variance in Commitment, after the Soft Influence factor has been partialled out.

Overall, results in Table 10 can be interpreted to support Hypothesis 1 and the existence of two higher-order factors of target reported downward influence. Analysis of the specific validity of individual influence tactics indicates that, in most cases, individual influence tactics had relatively little to contribute beyond the corresponding broad construct (i.e., beyond perceived soft influence or hard influence). The counter instances to our general conclusion of 'no specific

validity' are found for the following specific tactics: (a) rational persuasion uniquely predicts commitment, beyond soft influence, (b) exchange uniquely predicts commitment, compliance, and LMX, beyond soft influence, (c) consultation and personal appeal uniquely predict commitment, beyond soft influence, and (d) pressure tactics uniquely predict commitment, compliance, and LMX, beyond hard influence.

Table 10 *Incremental Validity of Individual Traits Controlling for General Factors* (Incremental R^2 values)

	Soft Influence							Hard Influence			
Dependent Variable	Total	RAT	INSP	CONS	INGR	EXCH	PERS	Total	COAL	LEGT	PRES
Libo (2006)											
Commitment											
Common Factor	.28*	.28*	.28*	.28*	.28*	.28*	.28*	.06*	.06*	.06*	.06*
Specific Trait	**.08***	**.05***	.00	.01	.01	**.04***	.01	.00	.00	.00	.00
Compliance											
Common Factor	.00	.00	.00	.00	.00	.00	.00	.04*	.04*	.04*	.04*
Specific Trait	.08	.01	.00	.02	.00	**.07***	.01	.01	.00	.01	.00
Resistance											
Common Factor	.00	.00	.00	.00	.00	.00	.00	.10*	.10*	.10*	.10*
Specific Trait	.05	.00	.00	.02	.01	.02	.01	.01	.00	.00	.01
Emans et al. (2003)											
Commitment											
Common Factor	.15*	.15*	.15*	.15*	.15*	.15*	.15*	.03	.03	.03	.03
Specific Trait	**.13***	**.08***	.01	**.05***	.02	.01	**.04***	.05	.00	.00	**.04***
Compliance											
Common Factor	.09*	.09*	.09*	.09*	.09*	.09*	.09*	.02	.02	.02	.02
Specific Trait	.03	.02	.00	.01	.01	.00	.01	.04	.00	.01	**.03***
Yukl et al. (2008)											
Commitment											
Common Factor	.42*	.42*	.42*	.42*	.42*	.42*	.42*	.01	.01	.01	.01
Specific Trait	.06	.00	.01	.02	.01	.02	.02	.02	.00	.01	.01
LMX											
Common Factor	.71*	.71*	.71*	.71*	.71*	.71*	.71*	.01	.01	.01	.01
Specific Trait	.03	.00	.00	.00	.00	**.02***	.00	**.11***	.00	.02	**.08***

RAT = Rational Persuasion, INSP = Inspirational Appeal, CONS = Consultation, INGR = Ingratiation, EXCH = Exchange, PERS = Personal Appeal, COAL = Coalition, LEGT = Legitimating, and PRES = Pressure.
* $p < .05$

CHAPTER 7

CONCLUSIONS

In all, the current paper described three studies that examined the factor structure underlying a target's perception of downward influence. Drawing on meta-categorizations of influence tactics previously presented in the influence literature (Yukl & Chavez, 2002), this study constructed a set of possible factor models and tested them, head to head. The best fitting model was a two factor model of influence consisting of a *hard influence* factor manifest by legitimating, coalition, and pressure tactics, and a *soft influence* factor that includes rational persuasion, consultation, ingratiating, inspirational appeals, exchange, and personal appeals. This two-factor solution supports the assertions of previous theorists that hard and soft tactics can be differentiated by the degree to which they either reinforce or threaten the target's autonomy to choose to comply with the agent's request. An analysis of incremental validity in predicting outcomes of influence events supported the existence of the two distinct hard and soft influence factors, with hard influence predicting resistance, soft influence predicting commitment, and both hard and soft influence predicting compliance. An analysis of specific validity showed that the hard and soft factors accounted for the lion's share of the predictive validity for outcomes of influence. Pressure tactics had a significantly more negative relationship with the positive outcomes of commitment, compliance, and LMX beyond the general hard influence factor. Exchange tactics had a significantly more negative relationship with commitment and LMX, and more positive relationship with compliance, beyond the soft influence factor. Rational persuasion had a significantly more positive relationship with the positive outcome of commitment, beyond the general soft influence factor.

The study of influence tactics has been an empirically-driven, inductive endeavor since its inception in the 1980's (Kipnis et al., 1980) and has remained one of the least theory-laden lines of research in industrial/organizational psychology. To date, the psychological constructs driving tactic selection and perceptions of others' influence behavior have been under-theorized and under-investigated (Yukl & Chavez, 2002). The current study confirms a theoretical two-factor model that effectively compares and coalesces the various conceptualizations of tactic meta-categoization expressed in past literature.

Primary studies selected for inclusion in the current meta-analysis were parsed to isolate a single direction and perspective of influence, i.e. the target perspective of downward influence. There are good reasons to expect that the psychological constructs underlying agent descriptions of influence behavior are very different from target perceptions of the agent's behavior. From the agent perspective, influence behavior likely starts with a concept of a desired outcome and ends with the execution of an influence strategy that is calculated to be effective based on the agent's perception of target and situational factors such as sources of power. From the target perspective, the influence event begins with interaction with the agent. The agent's influence behavior may serve as a stimulus for an affective event in which the target's assessment of the impact of the request elicits an emotional reaction (Weiss & Cropanzano, 1996). This reaction likely colors the perception of influence behavior. In downward influence, the agent has some degree of legitimate power to draw upon in making the request. The agent can either leverage this power to influence the target or attempt to elicit voluntary compliance from the target. The findings of the current study suggest that a subordinate target's perception of a threat to their autonomy is the major driver of the target's perception of the influence event as a whole. Tactics

that preserve the target's autonomy are perceived as soft influence, whereas tactics that threaten the target's autonomy are perceived as hard influence.

7.1 Future directions

Achieving greater clarity with regard to the empirical and theoretical structure underlying perceptions of influence should help connect influence tactic research with other domains of organizational psychology. How, for example, do these two factors underlying target perceptions of a leader's influence relate to more general behavioral constructs such as target counterproductive work behavior (CWB) and organizational citizenship behavior (OCB), or does the effectiveness of hard versus soft influence depend upon preexisting LMX relations?. Is LMX an antecedent, an outcome, or both an antecedent and outcome of target perceptions of soft influence? Conceptualizing the target's experience of an influence event within the broader domain of affective events may further allow for better theorized relationships between influence behaviors and constructs such as job satisfaction and affective disposition. Additionally, identifying two factors of target perceptions of downward influence opens the door to investigating interactions between the target's personality and these perceptual factors. Which sort of followers receive rational persuasion tactics, and which receive exchange and pressure tactics?

The ambiguous relationships between the two influence factors and the influence outcome of *compliance* remains to be explained. It would be useful to identify the contextual factors that moderate the relationship between hard and soft influence factors and target compliance. Fiedler's (1971) contingency model may well provide the situational factors moderating this relationship. A better measure of commitment, compliance, and resistance would also contribute to this endeavor. As it is, several studies of influence tactic outcomes have used

simple, single item measures of commitment, compliance and resistance (e.g. Libo, 1997) that are unlikely to fully capture these constructs. It is an open question as well whether these behaviors represent a continuum of response behaviors, as is suggested by their operationalization in some studies (e.g. Yukl et al., 1996), or if they are separate constructs.

Lastly, future studies need to consider agent and leader perspectives of influence in the same way that the current study has focused on target perspectives of downward influence. There is evidence that targets and agents experience influence events differently, and that different tactics are used in upward, downward, and lateral influence (Kipnis et al., 1980; Yukl & Falbe, 1990; Yukl & Tracey, 1992). Future studies should extend this work and investigate the psychological phenomena driving these differences.

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APPENDIX A

TSSEM Input configuration file:

```
AN=1

NG=16

NI=9

# CM means covariance matrix. Covariance matrix is used here.
# FU means full matrix. If the matrix is symmetric, SY can be used.
# FI is the ASCII file for the data. For example, the data file is raw.dat.
# Note that this line is directly copied to generate LISREL syntax.
CM SY FI=cor.dat

# PH is the file for the parameter estimates of the PHI matrix, i.e, the pooled correlation matrix.
# Note that it CANNOT be used as input at the Stage 2 directly
# because it duplicates output for several groups.
# PH=tssem1.cor

# EC is the file for the asymptotic covariance matrix of the parameter estimates.
# Note that it CANNOT be used as the weight matrix at the Stage 2 directly
# because it contains the elements of the standard deviations.
# EC=tssem1.ack

GP=1
NO=40

GP=2
NO=157

GP=3
NO=125

GP=4
NO=71

GP=5
NO=64

GP=6
NO=46

GP=7
NO=140
```

GP=8
NO=111
MV=4 5 6

GP=9
NO=177
MV=1 4 6 7

GP=10
NO=144
MV=6 7

GP=11
NO=194
MV=5 6 7 8

GP=12
NO=83
MV=4 5 6 8

GP=13
NO=166
MV=1 2 5 6 7 9

GP=14
NO=70

GP=15
NO=93
MV=4 5 6 7 8 9

GP=16
NO=93
MV=4 5 6 7 8 9

TSSEM Input data file:

1.00
.83 1.00
.53 .70 1.00
.45 .50 .39 1.00
.46 .55 .35 .47 1.00
.36 .39 .06 .23 .51 1.00
-.01 -.06 -.12 -.03 .29 .22 1.00
-.08 -.26 -.32 -.08 .11 .43 .45 1.00

-.09 -.28 -.65 -.32 -.04 .29 .51 .47 1.00
1.00
.68 1.00
.65 .68 1.00
.48 .64 .54 1.00
.38 .57 .36 .54 1.00
.39 .48 .31 .55 .68 1.00
.38 .49 .25 .32 .62 .53 1.00
.45 .41 .30 .36 .52 .57 .62 1.00
.34 .10 .27 .08 .12 .19 .23 .43 1.00
1.0
.81 1.0
.80 .85 1.0
.59 .79 .70 1.0
.48 .65 .56 .69 1.0
.28 .49 .41 .64 .58 1.0
.47 .53 .42 .52 .67 .44 1.0
.41 .36 .27 .35 .49 .30 .76 1.0
.32 .37 .29 .35 .53 .40 .63 .55 1.0
1.00
.64 1.00
.73 .68 1.00
.52 .59 .56 1.00
.49 .15 .42 .55 1.00
.40 .26 .25 .59 .36 1.00
.55 .21 .36 .62 .57 .70 1.00
.64 .64 .51 .48 .38 .52 .53 1.00
.35 .30 .22 .28 .39 .57 .36 .56 1.00
1.00
.68 1.00
.75 .71 1.00
.30 .35 .27 1.00
.75 -.01 .22 .54 1.00
.37 .18 .06 .56 .66 1.00
.30 .25 .32 .67 .67 .55 1.00
.68 .45 .51 .57 .46 .32 .53 1.00
.30 .21 .06 .52 .46 .66 .54 .46 1.00
1.00
.76 1.00
.66 .53 1.00
.62 .61 .60 1.00
.50 .35 .47 .68 1.00
.61 .53 .41 .70 .67 1.00
.36 .20 .36 .66 .76 .66 1.00
.54 .23 .52 .58 .74 .59 .75 1.00
.47 .33 .10 .33 .45 .64 .76 .41 1.00

1.0
.63 1.0
.76 .63 1.0
.38 .68 .38 1.0
.49 .55 .47 .56 1.0
.38 .61 .48 .68 .57 1.0
.01 .27 .10 .26 .36 .29 1.0
.13 .20 .01 .31 .29 .15 .44 1.0
-.20 .01 -.27 .13 .01 .07 .31 .46 1.0
1.0
.70 1.0
.70 .64 1.0
0 0 0 1.0
0 0 0 0 1.0
0 0 0 0 0 1.0
.48 .33 .23 0 0 0 1.0
.63 .49 .44 0 0 0 .66 1.0
.37 .11 .27 0 0 0 .46 .50 1.0
1.0
0 1.0
0 .44 1.0
0 0 0 1.0
0 .12 .15 0 1.0
0 0 0 0 0 1.0
0 0 0 0 0 0 1.0
0 .43 .29 0 .32 0 0 1.0
0 .19 .01 0 .26 0 0 .35 1.0
1.0
.36 1.0
.63 .37 1.0
.44 .69 .34 1.0
.11 .48 .25 .44 1.0
0 0 0 0 0 1.0
0 0 0 0 0 0 1.0
.18 .48 .20 .46 .48 0 0 1.0
.09 .09 .15 .06 .15 0 0 .34 1.0
1.0
.58 1.0
.55 .52 1.0
.55 .65 .53 1.0
0 0 0 0 1.0
0 0 0 0 0 1.0
0 0 0 0 0 0 1.0
0 0 0 0 0 0 0 1.0
-.28 -.09 -.08 -.14 0 0 0 0 1.0
1.0

.74 1.0
.72 .79 1.0
0 0 0 1.0
0 0 0 0 1.0
0 0 0 0 0 1.0
.64 .51 .45 0 0 0 1.0
0 0 0 0 0 0 0 1.0
.02 -.10 -.16 0 0 0 .20 0 1.0
1.0
0 1.0
0 0 1.0
0 0 .55 1.0
0 0 0 0 1.0
0 0 0 0 0 1.0
0 0 0 0 0 0 1.0
0 0 .20 .46 0 0 0 1.0
0 0 0 0 0 0 0 0 1.0
1.0
.48 1.0
.33 .29 1.0
.23 .32 .18 1.0
.03 .01 .04 .24 1.0
-.06 .19 .09 .24 .54 1.0
.06 .13 -.03 .41 .38 .16 1.0
.32 .08 .11 .14 .28 .06 .44 1.0
-.20 -.21 -.17 .11 .40 .32 .38 .31 1.0
1.00
.63 1.00
.49 .44 1.00
0 0 0 1.0
0 0 0 0 1.0
0 0 0 0 0 1.0
0 0 0 0 0 0 1.0
0 0 0 0 0 0 0 1.0
0 0 0 0 0 0 0 0 1.0
1.00
.74 1.00
.71 .59 1.00
0 0 0 1.0
0 0 0 0 1.0
0 0 0 0 0 1.0
0 0 0 0 0 0 1.0
0 0 0 0 0 0 0 1.0
0 0 0 0 0 0 0 0 1.0

Sample SAS Syntax for Incremental and Specific Validity

```
/*  Corr matrix for IBQ */
data IBQ (type=corr);

   input _name_ $1-6 _type_ $8-11
         x1-x12;
         label x1='Rational Persuasion'  x2='Inspirational appeal'
            x3='Consultation'
         x4='Ingratiation'  x5='Exchange'  x6='Personal appeal'
         x7='Coalition' x8='Legitimating' x9='Pressure'
         x10='Commit' x11='Factor1' x12='Factor2';
/*  Note:
  The _NAME_ values *must* match the variable names for valid
  correlation matrix input.  Only the lower half need be entered.
*/
list;cards;
X1      CORR 1   .   .   .   .   .   .   .   .   .   .   .
X2      CORR .48 1   .   .   .   .   .   .   .   .   .   .
X3      CORR .33 .29 1   .   .   .   .   .   .   .   .   .
X4      CORR .23 .32 .18 1   .   .   .   .   .   .   .   .
X5      CORR .03 .01 .04 .24 1   .   .   .   .   .   .   .
X6      CORR -.06 .19 .09 .24 .54 1   .   .   .   .   .   .
X7      CORR .06 .13 -.03 .41 .38 .16 1   .   .   .   .   .
X8        CORR .32 .08 .11 .14 .28 .06 .44 1 .   .   .   .   .
X9        CORR -.20 -.21 -.17 .11 .40 .32 .38 .31 1 .   .   .   .
X10       CORR .45 .50 .45 .20 -.01 -.02 -.05 .00 -.15 1 .   .   .
X11       CORR .65 .63 .51 .45 .18 .17 .00 .00 .00 .65 1 .   .
X12       CORR .00 .00 .00 .00 .00 .00 .74 .63 .46 -.08 .30 1 .
N            70 70 70 70 70 70 70 70 70 70 70 70 70
;
proc print data=IBQ; run;

*Stnd. Factor loadings (should match the path diagram);
*From Corr matrix of eta & ksi (should match the path diagram);

Proc Reg Data= IBQ(type=corr);
model X10 = X11 X12 / stb; *Tests whether Factor 2 predicts beyond Factor 1;
model X10 = X11;
model X10 = X11 X1;
model X10 = X11 X2;
model X10 = X11 X3;
model X10 = X11 X4;
model X10 = X11 X5;
model X10 = X11 X6;
model X10 = X11 X1 X2 X3 X4 X5 X6;
test X1=0, X2=0, X3=0, X4=0, X5=0, X6=0; *Tests whether facets predict beyond
Factor 1;
model X10 = X12;
model X10 = X12 X7;
model X10 = X12 X8;
model X10 = X12 X9;
model X10 = X12 X7 X8 X9;
test X7=0, X8=0, X9=0; *Tests whether facets predict beyond Factor 2;
run;
```

Asymptotic Covariance Matrix:

0.42											
0.16	0.41										
0.20	0.19	0.45									
0.26	0.16	0.15	0.84								
0.11	0.08	0.12	0.32	0.54							
0.14	0.15	0.26	0.41	0.27	0.77						
0.18	0.13	0.12	0.37	0.16	0.20	1.30					
0.12	0.08	0.13	0.18	0.24	0.16	0.65	1.09				
0.11	0.13	0.18	0.20	0.14	0.32	0.70	0.60	1.18			
0.07	0.06	0.08	0.16	0.14	0.15	0.40	0.54	0.40	1.02		
0.21	0.11	0.13	0.44	0.20	0.24	0.60	0.31	0.33	0.21	1.71	
0.09	0.06	0.09	0.20	0.29	0.17	0.30	0.46	0.27	0.24	0.91	1.43
0.12	0.12	0.21	0.24	0.18	0.40	0.34	0.29	0.55	0.21	1.02	0.84
0.06	0.04	0.06	0.12	0.15	0.10	0.18	0.23	0.18	0.39	0.56	0.68
0.05	0.04	0.05	0.09	0.09	0.08	0.19	0.29	0.18	0.38	0.35	0.33
0.15	0.06	0.09	0.27	0.12	0.15	0.52	0.28	0.30	0.19	0.43	0.23
0.10	0.06	0.07	0.14	0.17	0.11	0.28	0.44	0.25	0.23	0.24	0.34
0.11	0.13	0.18	0.17	0.12	0.26	0.31	0.27	0.50	0.20	0.27	0.22
0.07	0.05	0.06	0.15	0.13	0.08	0.19	0.24	0.18	0.45	0.19	0.20
0.04	0.03	0.04	0.07	0.06	0.05	0.18	0.20	0.09	0.23	0.13	0.13
0.05	0.03	0.04	0.09	0.08	0.06	0.14	0.17	0.10	0.22	0.33	0.31
0.13	0.05	0.08	0.23	0.10	0.13	0.36	0.20	0.20	0.13	0.32	0.16
0.14	0.07	0.07	0.15	0.16	0.11	0.21	0.32	0.19	0.17	0.20	0.26
0.12	0.16	0.18	0.17	0.12	0.25	0.23	0.20	0.36	0.15	0.21	0.17
0.09	0.06	0.07	0.22	0.14	0.11	0.17	0.19	0.15	0.29	0.18	0.16
0.06	0.05	0.05	0.11	0.08	0.07	0.32	0.27	0.16	0.25	0.18	0.15
0.07	0.04	0.05	0.12	0.09	0.08	0.18	0.17	0.11	0.18	0.48	0.37
0.04	0.02	0.02	0.06	0.05	0.04	0.11	0.10	0.07	0.09	0.10	0.09
0.03	0.00	0.01	0.08	0.04	0.04	0.22	0.12	0.12	0.08	0.29	0.15
0.04	0.01	0.01	0.05	0.06	0.03	0.13	0.20	0.11	0.10	0.17	0.24
0.04	0.05	0.05	0.06	0.04	0.09	0.13	0.12	0.21	0.09	0.18	0.15
0.03	0.01	0.01	0.07	0.03	0.00	0.09	0.10	0.07	0.19	0.12	0.12
0.01	0.01	0.00	0.03	0.02	0.01	0.06	0.03	-0.02	0.04	0.07	0.06
0.01	0.01	0.00	0.03	0.01	0.00	0.04	0.04	0.01	0.05	0.05	-0.02
0.01	0.00	0.00	0.02	0.01	0.00	0.03	0.02	0.00	0.02	0.05	0.04
0.01	0.00	0.00	0.01	0.01	0.00	0.04	0.03	0.01	0.03	0.06	0.05

1.70											
0.56	1.16										
0.34	0.38	1.15									
0.26	0.15	0.13	1.43								
0.22	0.18	0.16	0.81	1.32							
0.42	0.16	0.13	0.89	0.79	1.49						
0.16	0.32	0.22	0.56	0.73	0.60	1.43					
0.10	0.14	0.26	0.31	0.34	0.34	0.47	1.15				
0.20	0.33	0.53	0.30	0.44	0.32	0.62	0.54	1.56			
0.19	0.11	0.09	0.58	0.31	0.34	0.21	0.13	0.13	1.13		
0.17	0.14	0.12	0.32	0.52	0.31	0.28	0.15	0.18	0.59	1.05	
0.33	0.12	0.10	0.34	0.30	0.59	0.23	0.14	0.14	0.64	0.59	1.13
0.14	0.23	0.15	0.23	0.28	0.24	0.54	0.19	0.25	0.40	0.56	0.46
0.12	0.13	0.23	0.19	0.19	0.17	0.22	0.46	0.26	0.27	0.32	0.30
0.26	0.33	0.39	0.17	0.21	0.16	0.27	0.24	0.77	0.23	0.36	0.26
0.07	0.08	0.10	0.29	0.24	0.17	0.23	0.19	0.22	0.14	0.18	0.11
0.17	0.10	0.08	0.41	0.23	0.24	0.16	0.11	0.12	0.42	0.23	0.23
0.14	0.13	0.10	0.24	0.37	0.22	0.21	0.12	0.16	0.23	0.39	0.22
0.28	0.10	0.08	0.25	0.22	0.40	0.17	0.11	0.11	0.24	0.22	0.41
0.09	0.24	0.12	0.17	0.21	0.17	0.40	0.15	0.21	0.16	0.21	0.17
0.04	0.06	0.21	0.10	0.10	0.08	0.13	0.34	0.21	0.10	0.11	0.10
-0.05	-0.02	0.15	0.08	0.11	0.07	0.15	0.16	0.47	0.08	0.12	0.08
0.02	0.04	0.08	0.03	-0.01	-0.03	0.00	0.09	0.21	0.05	0.05	0.02
0.03	0.04	0.07	0.07	0.05	0.03	0.05	0.09	0.12	0.01	0.00	-0.02

1.12											
0.41	1.10										
0.51	0.52	1.59									
0.21	0.33	0.28	0.87								
0.16	0.14	0.14	0.12	1.31							
0.22	0.15	0.18	0.12	0.78	1.23						
0.18	0.13	0.13	0.08	0.79	0.73	1.23					
0.41	0.18	0.22	0.13	0.60	0.77	0.59	1.43				
0.15	0.43	0.23	0.16	0.42	0.48	0.42	0.60	1.44			
0.17	0.20	0.56	0.13	0.34	0.49	0.34	0.67	0.67	1.80		
0.06	0.14	0.16	0.28	0.31	0.36	0.23	0.40	0.54	0.42	1.31	
0.01	0.13	0.20	0.20	0.37	0.36	0.25	0.38	0.42	0.34	0.53	1.06